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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,645	02/25/2005	Andrea Nascimbene	2483-50	8462

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EXAMINER	
KHAN, SUHAIL	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/525,645	NASCIMBENE ET AL.	
	Examiner	Art Unit	
	Suhail Khan	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-19, rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent App. No. 2002/0122406 to Chillariga et al in view of U.S. Patent No. 5666653 to Ahl.

Referring to **claim 1**, Chillariga et al disclose a method of optimizing and network planning a mobile telecommunication network (page 10, paragraph 105, allows network operators to increase network capacity) comprising a switch site (page 6, paragraph 69 and figure 1; MSC is interpreted as being the switch site) connected to a plurality of base station controllers (BSC) hub sites (page 6, paragraph 70 and figure 1; BSC is interpreted as being the Hub site; also, page 9, paragraph 101, BSCs) and radio base stations (RBSs) sites (page 6, paragraph 69, BTS) defining the transport network of a mobile telecommunication network (figure 1 shows communication between BSC and BTS, hence transport network), wherein the mobile telecommunication network is arranged to provide wireless data and voice services (page 6, paragraph 73, voice or data) to access terminals (page 6, paragraph 69 and figure 1; zone managers are interpreted as being access terminals), and wherein an access terminal is a terminal

device in a hub site (page 8, paragraph 86, zone manager function can be in BSC) for connecting an RBS site with a point-to-multipoint hub (page 4, paragraph 36, broadcast channels, interpreted as being point-to-multipoint; base station controller), the method comprising the step of: allocating a combination of point-to-point links and point-to-multipoint links for the transport network (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point). Chillariga et al do not disclose allocating links based on the traffic capacity associated with the radio base stations (RBSs). Examiner maintains that the concept of allocating a combination of point-to-point links and point-to-multipoint links for the transport network was well known in the art as taught by Ahl.

In a similar field of endeavor, Ahl shows allocating channels for different needs of traffic capacity (col 2, lines 23-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show a method of optimizing and network planning a mobile telecommunication network comprising a switch site connected to a plurality of base station controllers (BSC) hub sites and radio base stations (RBSs) sites defining the transport network of a mobile telecommunication network, wherein the mobile telecommunication network is arranged to provide wireless data and voice services to access terminals, and wherein an access terminal is a terminal device in a hub site for connecting an RBS site with a point-to-multipoint hub, the method comprising the step of: allocating a combination of point-to-point links and point-to-multipoint links for the transport network based on the traffic capacity associated with the radio base stations (RBSs), as taught by Ahl, the motivation being allocating

varying flows of capacity to different customers as parts of the total channel capacity (Ahl, col 2, lines 29-31).

Referring to **claim 2**, Chillariga et al disclose a method according to claim 1 wherein the point-to-point and point-to-multipoint links are microwave links (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; page 1, paragraph 2, microwave links).

Referring to **claim 3**, Chillariga et al disclose a method according to claim 1 with point-to-point and point-to-multipoint links (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; col 4, paragraph 33, high speed data). Chillariga et al do not disclose that the calls collected at the RBS requiring high bit rate capacities utilize a portion of a same frequency spectrum within a point-to-multipoint frequency band such that the access terminal connects transparently via a point-to-point link, effectively allowing use of a frequency reuse factor of one. The examiner maintains that the concept that the calls collected at the RBS requiring high bit rate capacities utilize a portion of a same frequency spectrum within a point-to-multipoint frequency band such that the access terminal connects transparently via a point-to-point link, effectively allowing use of a frequency reuse factor of one was well known in the art as taught by Ahl.

In a similar field of endeavor, Ahl shows sharing one radio channel on one frequency band (col 2, lines 25-30, using one frequency band entails frequency factor of one).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show that calls collected at the RBS requiring high bit rate capacities utilize a portion of a same frequency spectrum within a point-to-multipoint frequency

band such that the access terminal connects transparently via a point-to-point link, effectively allowing use of a frequency reuse factor of one, as taught by Ahl, the motivation being allocating varying flows of capacity to different customers as parts of the total channel capacity (Ahl, col 2, lines 29-31).

Referring to **claim 4**, Chillariga et al disclose a method according to claim 3 wherein interference at one or more locations in a point-to-multipoint covered sector is reduced by choosing one of a point-to-multipoint access terminal or a point-to-point terminal as a function of a carrier-to-interference (C/I) value in each location, thereby improving spectrum efficiency and quality of service (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; page 9, paragraph 93, radio link information incorporates radio link conditions such as carrier-to-interference ratio; page 10, paragraph 105, power control, reduction in interference levels, increase network capacity, throughput).

Referring to **claim 5**, Chillariga et al disclose a method according to claim 1 wherein the network planning includes a first RBS site connected to a second RBS site by a point-to-point terminal such that the access terminal, co-located with the second RBS site, routes the traffic from both the first RBS site and the second RBS site to one of the hub sites such that the first RBS site is less affected by co-channel interference than if the first RBS site were connected to the one hub site via a point-to-multipoint access terminal (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; figure 1, zone manager at BTS; page 10, paragraph 105, dedicated channel operates with lowest path loss, reduction in interference levels).

Referring to **claim 6**, Chillariga et al disclose a method according to claim 1 wherein the spectrum usage is minimized using angular antenna discrimination in conjunction with the traffic route diversity (page 10, paragraph 105, antennas are used for switching, results in power control, reduction in interference levels).

Referring to **claim 7**, Chillariga et al disclose a method according to claim 1 wherein the RRSS include business users receiving and running high bit-rate Business Access applications (page 4, paragraph 33, High Speed Circuit Switched Data).

Referring to **claim 8**, Chillariga et al disclose a network planning apparatus for optimizing a mobile telecommunication network (page 10, paragraph 105, allows network operators to increase network capacity) comprising a switch site (page 6, paragraph 69 and figure 1; MSC is interpreted as being the switch site) connected to a plurality of base station controllers (BSC) hub sites (page 6, paragraph 70 and figure 1; BSC is interpreted as being the Hub site; also, page 9, paragraph 101, BSCs) and radio base stations (RBSs) sites (page 6, paragraph 69, BTS) defining the transport network of a mobile telecommunication network (figure 1 shows communication between BSC and BTS, hence transport network), wherein the mobile telecommunication network is arranged to provide wireless data and voice services to access terminals (page 6, paragraph 73, voice or data; page 6, paragraph 69 and figure 1; zone managers are interpreted as being access terminals), and wherein an access terminal is a terminal device in a hub site for connecting an RBS site with a point-to-multipoint hub (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint; page 8, paragraph 86, zone manager function can be in BSC). Chillariga et al do not disclose allocating links based on the traffic capacity associated with the radio base stations (RBSs). Examiner maintains that the concept of allocating

a combination of point-to-point links and point-to-multipoint links for the transport network was well known in the art as taught by Ahl.

In a similar field of endeavor, Ahl shows allocating channels for different needs of traffic capacity (col 2, lines 23-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show a network planning apparatus for optimizing a mobile telecommunication network comprising a switch site connected to a plurality of base station controllers (BSC) hub sites and radio base stations (RBSs) sites defining the transport network of a mobile telecommunication network, wherein the mobile telecommunication network is arranged to provide wireless data and voice services to access terminals, and wherein an access terminal is a terminal device in a hub site for connecting an RBS site with a point-to-multipoint hub, the network planning apparatus comprising: means for allocating a combination of point-to-point links and point-to-multipoint links for the transport network based on the traffic capacity associated with the radio base stations (RBSs), as taught by Ahl, the motivation being allocating varying flows of capacity to different customers as parts of the total channel capacity (Ahl, col 2, lines 29-31).

Referring to **claim 9**, Chillariga et al disclose a mobile network according to claim 8 wherein the point-to-point links and point-to-multipoint links are any one of radio microwave links, fiber optic lines, or copper lines (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; page 1, paragraph 2, microwave links).

Referring to **claim 10**, Chillariga et al disclose a mobile network according to claim 8 wherein the point-to-point link to the terminals are achieved by use of radio antennas having high angular discrimination for reducing the interference (page 10, paragraph 105, antennas are used for switching, results in power control, reduction in interference levels).

Referring to **claim 11**, Chillariga et al disclose a mobile network connected to a second RBS site according to claim 8 wherein a first RBS site is by means of a point-to-point terminal such that the access terminal, co-located with the second RBS site, routes the traffic from both the first RBS site and the second RBS site to the Hub site such that the first RBS site is less affected by co-channel interference (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; figure 1; page 6, paragraph 73, dedicated channels include control and traffic channels; figure 1, zone manager at BTS; page 10, paragraph 105, dedicated channel operates with lowest path loss, reduction in interference levels).

Referring to **claim 12**, Chillariga et al disclose a mobile telecommunication network according to claim 8 (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; col 4, paragraph 33, high speed data; page 6, paragraph 69, BTS). Chillariga et al do not disclose that means are provided for calls collected at the RBS requiring high bit rate capacities for utilizing a portion of a same frequency spectrum within a point-to-multipoint frequency band such that the access terminal connects transparently via a point-to-point link, effectively allowing use of a frequency reuse factor of one. The examiner maintains that the concept that the calls collected at the RBS requiring high bit rate capacities utilize a portion of a same frequency spectrum within a point-to-multipoint frequency

band such that the access terminal connects transparently via a point-to-point link, effectively allowing use of a frequency reuse factor of one was well known in the art as taught by Ahl.

In a similar field of endeavor, Ahl shows sharing one radio channel on one frequency band (col 2, lines 25-30, using one frequency band entails frequency factor of one).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show that means are provided for calls collected at the RBS requiring high bit rate capacities for utilizing a portion of a same frequency spectrum within a point-to-multipoint frequency band such that the access terminal connects transparently via a point-to-point link, effectively allowing use of a frequency reuse factor of one, as taught by Ahl, the motivation being allocating varying flows of capacity to different customers as parts of the total channel capacity (Ahl, col 2, lines 29-31).

Referring to **claim 13**, Chillariga et al disclose a mobile network according to claim 8 wherein the RBSS are associated with by business users receiving and running high bit-rate Business Access applications (page 4, paragraph 33, High Speed Circuit Switched Data).

Referring to **claim 14**, Chillariga et al disclose a network apparatus for use in a mobile telecommunication network comprising a switch site page 6, paragraph 69 and figure 1; MSC is interpreted as being the switch site) connected to a plurality of base station controllers (BSCs) hub sites (page 6, paragraph 70 and figure 1; BSC is interpreted as being the Hub site; also, page 9, paragraph 101, BSCs) and radio base stations (RBSS) sites (page 6, paragraph 69, BTS) defining the transport network of a mobile telecommunication network (figure 1 shows communication between BSC and BTS, hence transport network), wherein the mobile telecommunication network is arranged to provide wireless data and voice services to access

terminals (page 6, paragraph 73, voice or data; page 6, paragraph 69 and figure 1; zone managers are interpreted as being access terminals), and wherein an access terminal is a terminal device in a hub site for connecting an RBS site with a point-to-multipoint hub (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint; page 8, paragraph 86, zone manager function can be in BSC), the method comprising the step of: allocating a combination of point-to-point links and point-to-multipoint links for the transport network (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point). Chillariga et al do not disclose allocating links based on the traffic capacity associated with the radio base stations (RBSs). Examiner maintains that the concept of allocating a combination of point-to-point links and point-to-multipoint links for the transport network was well known in the art as taught by Ahl.

In a similar field of endeavor, Ahl shows allocating channels for different needs of traffic capacity (col 2, lines 23-25).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show a network apparatus for use in a mobile telecommunication network comprising a switch site connected to a plurality of base station controllers (BSCs) hub sites and radio base stations (RBSS) sites defining the transport network of a mobile telecommunication network, wherein the mobile telecommunication network is arranged to provide wireless data and voice services to access terminals, and wherein an access terminal is a terminal device in a hub site for connecting an RBS site with a point-to-multipoint hub. the network apparatus configured to allocate a combination of point-to-point links and point-to-multipoint links for the transport network based on a traffic capacity associated with

each radio base station (RBS), as taught by Ahl, the motivation being allocating varying flows of capacity to different customers as parts of the total channel capacity (Ahl, col 2, lines 29-31).

Referring to **claim 15**, Chillariga et al disclose a network apparatus according to claim 14, wherein the point-to-point links and point-to-multipoint links include any one of radio microwave links, fiber optic lines, or copper lines (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; page 1, paragraph 2, microwave links).

Referring to **claim 16**, Chillariga et al disclose a mobile telecommunication network including the network apparatus according to claim 14, wherein RBS terminals communicating using a point-to-point microwave link include radio antennas having angular discrimination to reduce interference (page 4, paragraph 36, dedicated interpreted as being point-to-point; page 1, paragraph 2, microwave links; page 10, paragraph 105, antennas are used for switching, results in power control, reduction in interference levels).

Referring to **claim 17**, Chillariga et al disclose a mobile telecommunication network including the network apparatus according to claim 14, wherein a first RBS site is connected to a second RBS site by a point-to-point terminal such that an access terminal, co-located with the second RBS site, routes the traffic from both the first RBS site and the second RBS site to the Hub site such that the first RBS site is less affected by co-channel interference (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; page 6, paragraph 73, dedicated channels include control and traffic channels; figure 1, zone manager at BTS; page 10, paragraph 105, dedicated channel operates with lowest path loss, reduction in interference levels).

Referring to **claim 18**, Chillariga et al disclose a network apparatus according to claim 14 (page 4, paragraph 36, broadcast, interpreted as being point-to-multipoint, and dedicated interpreted as being point-to-point; col 4, paragraph 33, high speed data; page 6, paragraph 69, BTS). Chillariga et al do not disclose that means are provided for calls collected at the RBS requiring high bit rate capacities for utilizing a portion of a same frequency spectrum within a point-to-multipoint frequency band such that the access terminal connects transparently via a point-to-point link, effectively allowing use of a frequency reuse factor of one. The examiner maintains that the concept that the calls collected at the RBS requiring high bit rate capacities utilize a portion of a same frequency spectrum within a point-to-multipoint frequency band such that the access terminal connects transparently via a point-to-point link, effectively allowing use of a frequency reuse factor of one was well known in the art as taught by Ahl.

In a similar field of endeavor, Ahl shows sharing one radio channel on one frequency band (col 2, lines 25-30, using one frequency band entails frequency factor of one).
Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Chillariga et al to show a network apparatus according to claim 14, wherein the network apparatus is configured to use a portion of a same frequency spectrum allocated for a point-to-multipoint frequency band for calls collected at the RBS requiring high bit rate capacities such that the access terminal collects transparently via a point-to-point link effectively allowing use of a frequency reuse factor of one, as taught by Ahl, the motivation being allocating varying flows of capacity to different customers as parts of the total channel capacity (Ahl, col 2, lines 29-31).

Referring to **claim 19**, Chillariga et al disclose mobile telecommunication network including the network apparatus according to claim 14, wherein the RBSS are associated with business users receiving and running high bit-rate Business Access applications (page 4, paragraph 33, High Speed Circuit Switched Data).

Response to Arguments

4. Applicant's arguments filed 2/21/2006 have been considered but are moot in view of the new ground(s) of rejection necessitated by amendment.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Suhail Khan whose telephone number is (571) 272-7910. The examiner can normally be reached on M-F from 8 am to 4:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Field, can be reached at (571) 272-4090.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sk

ERIKA A. GARY
PRIMARY EXAMINER